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# 65 UNIFIED COMMUNICATIONS: AASTRA 5000- MICROSOFT LYNC

## 65.1 Overview

### 65.1.1 Presentation of MOCS /Lync

Microsoft Lync Server (former Microsoft Office Communications Server or OCS) is Microsoft's unified communication solution. It interfaces with a large variety of existing telecommunication systems, enabling companies to continue to use the Microsoft interface to have unified communication services such as:

- Computer telephony integration. Calls can be easily made using the Microsoft computer interface. Voice calls are triggered after a chat session, for example.
- Presence management: broadcasting presence-related information to callers and knowing the presence of colleagues
- Voice services such as unified messaging or softphone management.

#### Microsoft OCS / Lync Server - History

*In 2005: Live Communication Server 2005 (**LCS**) = MOCS R1*

- Multimedia conference
- Presence, chat
- ToIP
- Office integration

*In 2007: Microsoft Office Communication Server 2007 (OCS) = MOCS R2*

- + Groups, forums (logging, filtering, alerts)
- + Desktop-sharing
- + Access to voicemail via Communicator
- + Presence-based personal routing (services similar to TWP Rules)
- + Manager / assistant filtrering
- + Attendant consoles
- +IVR with voice recognition.

*In 2010: Lync 2010 = MOCS R3 = MOCS 2010 = Wave 14*

Microsoft Lync Server 2010 features complete enterprise presence-management, instant-messaging, conference and voice functions.

It brings in audio, video and conference bridge quality enhancements (G.711 support), especially during direct communications between two Lync 2010 users.

### *In 2013: Lync 2013*

Lync 2013 has a new feature which facilitates and speeds up communications. It contains new features, such as **permanent conversation rooms**, **shared notes** and **mobility** which allow Lync to be adapted to all personal needs, at the office, at home or during travels.

It still has the RCC interface for CTI (computer telephony integration).

### *Lync Online : hosted version of Lync Server 2013.*

Companies can obtain Lync Online as an independent Microsoft Office 365 service or within the framework of Office 365 suite for companies which includes Lync Online, Microsoft Exchange Online, Microsoft SharePoint Online, Microsoft Office Professional Plus and Microsoft Office Web Apps.

Companies, which subscribe to Lync Online, keep control of the collaboration services they offer to users, but do not have the functional charges of internal server software. These servers are hosted by Microsoft hosting centres and are accessible to users on a wide range of devices on a corporate network or on the internet.

With Lync Online:

- Access presence information in real time (including pictures, availability status and location), and enhanced instant messaging for effective connection.
- Create, coordinate and join audio, video and web meetings with members or non-members of your organisation
- Improve online presentations thanks to screen-sharing and virtual white tables.
- Enable clients to participate in Lync remote conference calls even if they are not using Office 365 or Lync Online.

### *Lync 2013 Server features Vs Office 365 features*

The following table is an extract of the table available on: http://technet.microsoft.com/en-en/library/jj822172.aspx

This table shows some restrictions of Lync Online compared to Lync 2013 notamment sur les fonctionnalités vocales : Lync Online dans Office 365 ne permet pas l'intégration voix.

| Features | Lync Server 2013 | Office 365 Small Business, Small Business Premium or Mid-size Business |
|---|---|---|
| **Clients for Lync Online** | | |
| Lync 2013 | Yes | Yes |
| Lync 2013 Basic | Yes | Yes |
| Lync Windows Store App | Yes | Yes |
| Lync for Mac 2011 | Yes | Yes |

| Features | Lync Server 2013 | Office 365 Small Business, Small Business Premium or Mid-size Business |
|---|---|---|
| Lync mobile Clients | Yes | Yes |
| Lync Web App | Yes | Yes |
| **Lync to Lync Audio, video and media** | | |
| Desktop sharing | Yes | Yes |
| Application sharing | Yes | Yes |
| File transfer | Yes | Yes |
| Voice | Yes | Yes |
| Video | Yes | Yes |
| Media path optimization | Yes | **No** |
| Network Quality of Service (QoS) - Differentiated Services Code Point (DSCP) | Yes | **No** |
| **Lync meetings** | | |
| Ad Hoc and Schedule Audio Conferencing | Yes | Yes |
| Ad Hoc and Schedule Video Conferencing | Yes | Yes |
| Active Speaker Video | Yes | Yes |
| H.264 Encoding and Decoding | Yes | Yes |
| Multiparty Video | Yes | Yes |
| High Definition Video or Pictures of All Attendees | Yes | Yes |
| Presenter Controls | Yes | Yes |
| Participant Selected View | Yes | Yes |
| OneNote Sharing | Yes | Yes |
| Ad Hoc and Schedule Web Conferencing | Yes | Yes |
| Dial-in PSTN Conferencing via Certified Audio Conferencing Provider (ACP) | No | Yes |
| Desktop Sharing | Yes | Yes |
| Application Sharing | Yes | Yes |
| PowerPoint Sharing | Yes | Yes |
| File Transfer | Yes | Yes |
| Whiteboard and Annotations | Yes | Yes |
| PowerPoint Upload | Yes | Yes |
| Polling | Yes | Yes |
| Client-Side Recording and Playback | Yes | Yes |
| Server-Side Recording and Playback | No | No |

| Features | Lync Server 2013 | Office 365 Small Business, Small Business Premium or Mid-size Business |
|---|---|---|
| Meeting Lobby | Yes | Yes |
| Participant Anonymous Join with Lync Web App | Yes | Yes |
| Schedule Lync Meetings in Outlook | Yes | Yes |
| Schedule Lync Meetings in Outlook on Behalf of Others (Delegation) | Yes | Yes |
| Schedule Lync Meetings with Web Scheduler | Yes | Yes |
| Schedule Online Meetings in Outlook Web App | Yes | **No** |
| Outlook Delegation for Scheduling Meetings | Yes | Yes |
| **Lync Voice features** | | |
| VoIP protocol and PSTN/RTC calls with Exchange Voice Mail | Yes | **No** |
| Management of IP 2 phones | Yes | **No** |
| Waiting call, transfer, group | Yes | **No** |
| Emergency call (911, 112, etc.) | Yes | **No** |
| Call parking | Yes | **No** |
| Outgoing DID (Direct Inward Dialing) | Yes | **No** |
| Management of analog devices (for example, Fax) | Yes | **No** |
| Private line (secondary DID) | Yes | **No** |
| RCC with a local pbx | Yes | **No** |
| Malicious calls tracking | Yes | **No** |
| Number not allocated | Yes | **No** |
| Management of the phone numbers | Yes | **No** |
| CDR and taxation report | Yes | **No** |
| Integration to call centers solutions | Yes | **No** |
| Survivable Branch Appliances | Yes | **No** |
| Call Admission Control (CAC) | Yes | **No** |

In this document, we shall describe the integration of the different collaborative elements of Microsoft with Aastra 5000.

### 65.1.2 Aastra - Microsoft: a unified approach

The Aastra 5000 solution integrates with the Lync solution to meet the expectations of customers wishing to have a single Microsoft user interface.

Used in CTI mode, Lync 2010/1013 enhances subscribers' presence and is used to manage Aastra telephone terminals (call, call transfer, enquiry call, conference set up, etc.).

By interfacing with Aastra 5000, Microsoft unified messaging offers to Aastra subscribers advanced collaboration and accessibility services associated with Office Outlook. This solution has the advantage of offering both an electronic messaging system and a unified messaging system on the same platform.

Aastra 5000 subscribers may control their Outlook tool from their Aastra telephone terminal and, thus, listen to, reply, create and transfer voice and electronic messages.

Another way of integration is that the collaboration application becomes a softphone of the Aastra 5000 solution. The BluStar for PC application, by its plugins, provides this facility to Microsoft Lync users. The user can make a call or answer an incoming call directly from the softphone on his PC. This solution simple to implement can benefit from a high quality telephony service while ensuring an intuitive use and a single interface.

Aastra – Microsoft: a unified approach
Integrated telephony solution with Aastra portfolio
Unified messaging e-mail, voicemail
Secure enterprise solution for presence / IM
Conference solution: audio/video/virtual meeting

### 65.1.3 Components of the global solution

The global solution contains:

*On Aastra side:*

- Aastra 5000 Server and/or AX Series from R5.1
- IP or traditional terminals
- In CTI mode: Aastra 5000-Lync application interface: TWP RCC gateway
- In VoIP mode: Aastra 5000-Lync interface: partnership SIP-SIP gateway
- In plug-in mode : softphone BluStar for Lync plug-in

*On Microsoft side:*

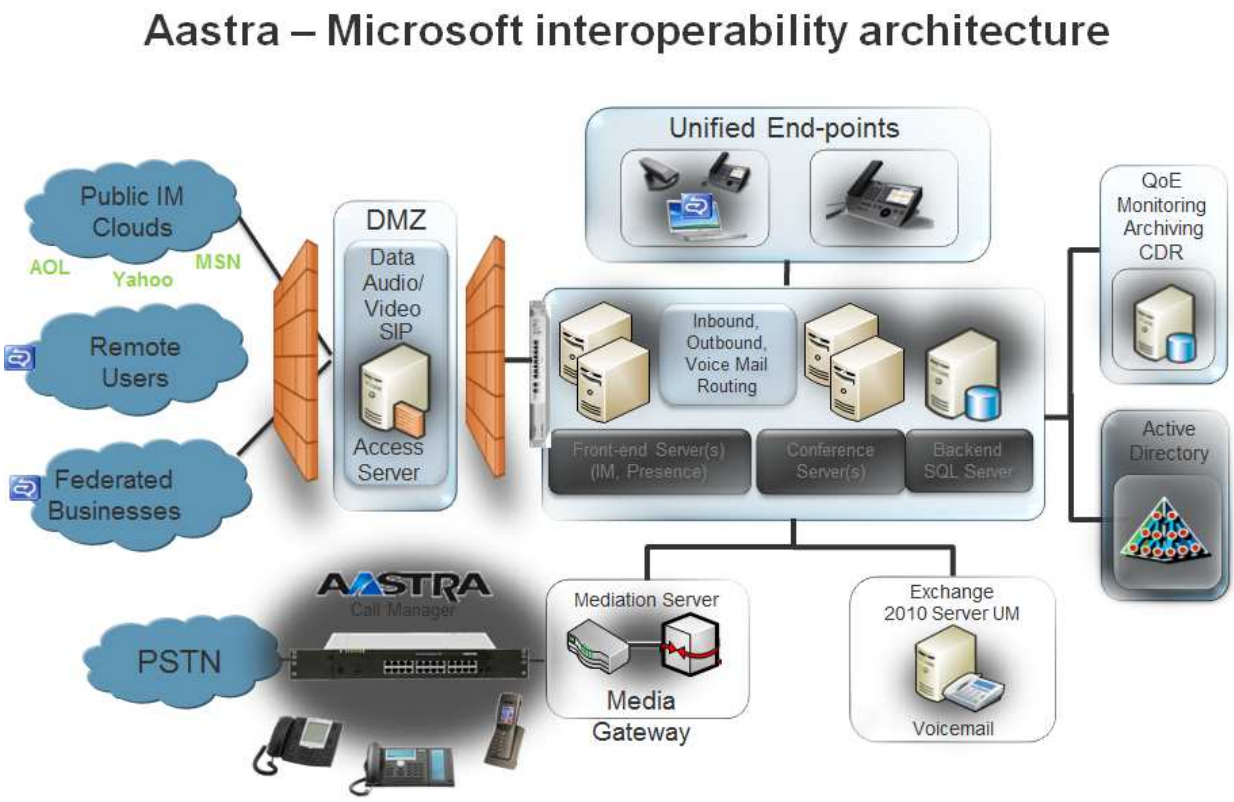
- Lync Server 2010/2013
- Exchange Server 2010/2013 with unified messaging option
- Lync 2010/2013 (client)
- Microsoft Active Directory (on Windows Server 2008)
- Office Outlook Voice Access

*See Microsoft engineering documents for more information about the components of the Microsoft solution.*

## 65.2 Aastra - Microsoft interoperability

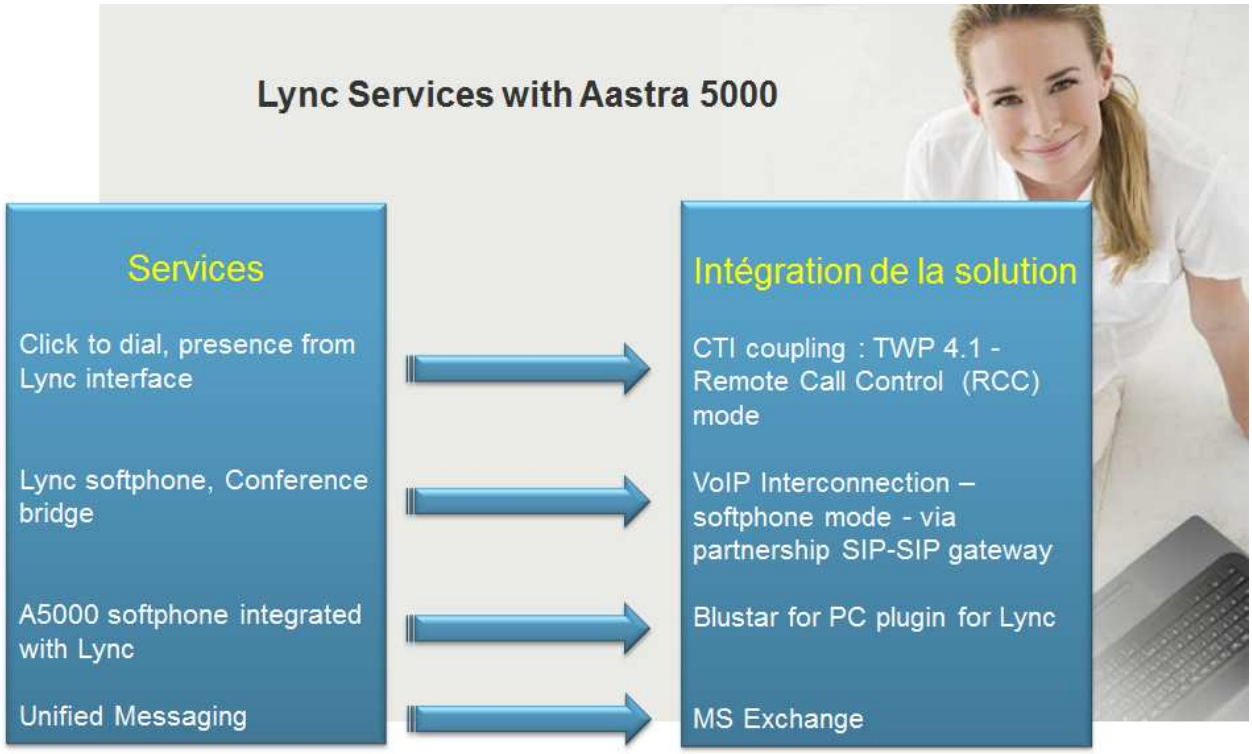
### 65.2.1 Architecture

Microsoft Lync 2010/2013 has several configurations; all the necessary services may be hosted by a single front-end server for small entities. For a system configuration, the server components are split and installed on several front-end servers. Access Server allows connection to be set up with external clients and remote users. It also allows the use of Outlook Web Access and Outlook Mobile. *For more information, please refer to Microsoft engineering documents*.




The entry point of the Microsoft solution is the Mediation Server which is also integrated into the Lync 2010/2013 server in small configurations.

Aastra 5000 interfaces with Lync 2010/2013 according to various scenarios, the need for unified messaging, CTI, softphone, etc. Depending on the scenario chosen, the components of the Aastra 5000 gateway are different and may need an additional media gateway. These scenarios are described below:

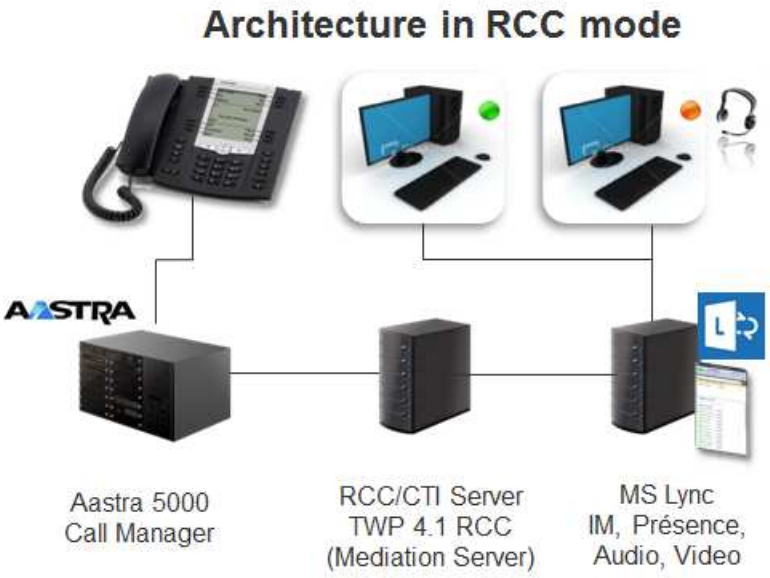

Lync Services with Aastra 5000
Services
Click to dial, presence from Lync interface
Lync softphone, Conference bridge
A5000 softphone integrated with Lync
Unified Messaging
Intégration de la solution
CTI coupling : TWP 4.1 - Remote Call Control (RCC) mode
VoIP Interconnection – softphone mode - via partnership SIP-SIP gateway
Blustar for PC plugin for Lync
MS Exchange

### 65.2.2 Computer telephony integration (CTI) - RCC mode

Users have an Aastra terminal (SIP, DECT, IP, analogue, digital, Smartphone AMC), and use their terminal via the Microsoft Lync computer interface: taking calls, making calls, transferring calls. This configuration mode is based on the TWP R4.1 Lync integration option (also called TWP RCC gateway). The link is an application link created via TWP from server to server.

## There are many user benefits in this configuration:

- Using the main Microsoft Lync services with the IM and click-to-call functions on a reliable telephony interface suited to the user configuration brought in by Aastra 5000
- Using the functions unavailable with the Lync services but available with the Aastra 5000 solution such as contact centre, attendant console, DECT mobility, smartphone functions and, of course, enterprise interoperability management: analogue, digital, IP terminals, traditional operator links, direct SIP IP without gateway. The Aastra 5000 solution also allows connection to traditional QSIG interfaces, tie lines, etc. Aastra 5000 supports standard SIP terminals and, thus, allows physical terminals, intercoms, conference systems, and video terminals to be connected so as to avoid relying solely on softphones. Aastra 5000 contributes to the security of the solution, with effective emergency call management. Moreover, users benefit from advanced audio quality (G722 on 5300ip or 6700i), the so-called HiQ.
- Homogeneity of the Microsoft collaboration solution and Aastra 5000 unified communication solution. Microsoft's application-sharing functions use the audio conference services of Aastra 5000: integrated conference, conference with TWP Conference or ACP IP Conference Bridge
- It is user-friendly:
    - Centralised configuration of computer-telephony integration
    - No wiring is required for users; the LAN/WAN needs not be upgraded either: service possible for an analogue terminal.
    - There is no need to define complex routing rules between terminal users deploying Lync resources and other Aastra 5000 resources.

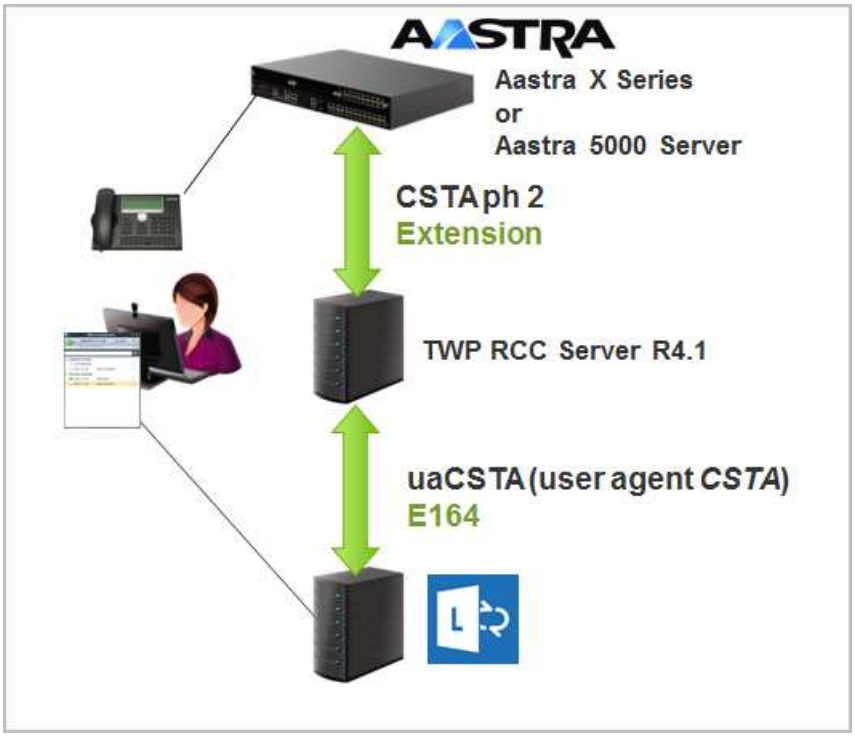



## Details of the elements:

- CTI/RCC Gateway : Aastra TWP RCC Gateway
- Aastra : license CSTA (up to 15,000 CTI users from R5.1) required to connect the TWP server to the Aastra 5000, included in the Aastra TWP RCC Gateway

## Protocols used:

- Signalling:
  - Aastra - RCC Gateway: CSTA
  - RCC Gateway- Lync: UaCSTA / SIP




## Functional level:

The terminals that can be supervised via CSTA may be analogue, digital, IP, SIP or DECT terminals, but the ergonomics differs according to type of terminal (for example : off-hook, non-automatic on-hook function on SIP terminal or analogue terminal).

In this configuration, voice flow is on the Aastra terminal, and the ergonomics is that of Lync 2010 or physical terminal.

### *The following services are available:*

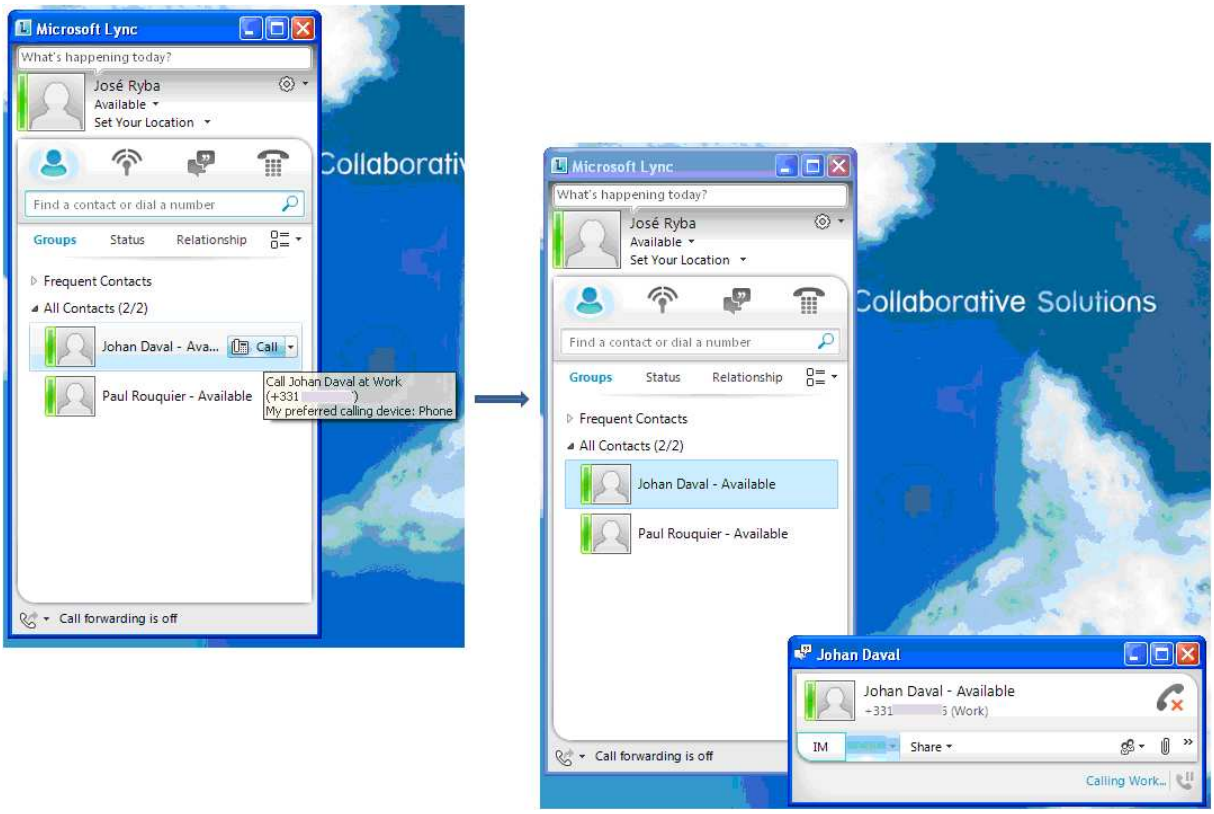
- Simple call, call pick up, hang up
- Multiple call from the Lync Client:
  - Simple call, call interception
  - On hold / retrieve / alternate
  - Divert
  - Blind or presented transfer
  - No taking of a second call from Lync
- Forward on ringing (divert)
- Supervised/blind call transfer
- 3-party conference: conference initiated by the terminal supervised by Lync 2010. Two calls are displayed on the Lync interface.
- N-party conference: initiated by Lync
- Internal / external /immediate forwarding, forwarding on no answer, on busy:
  - No synchronisation of forwarding between Aastra and Lync. It is Lync forwardings.
  - Immediate forwarding only to another Lync 2010 subscriber

- No Lync parking function
- No Do Not Disturb function.
- Telephony presence status: free, busy, ringing

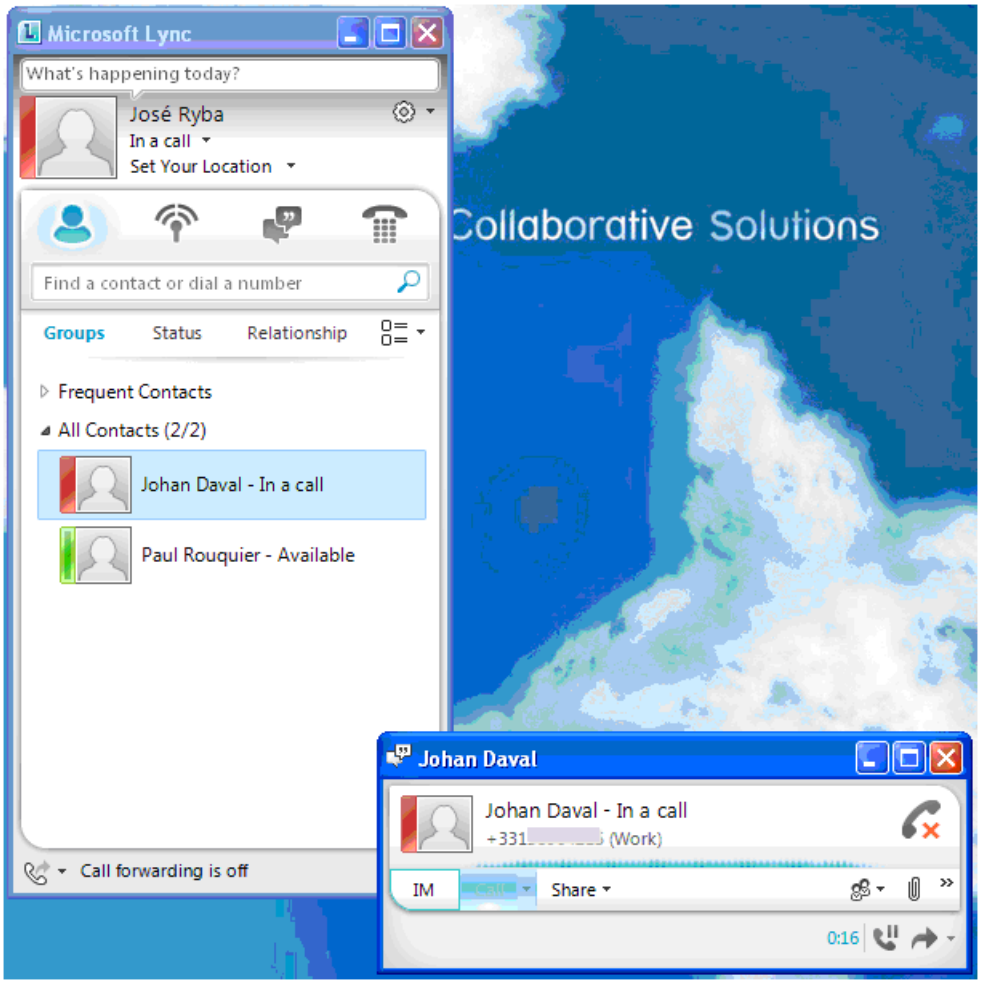
## Example of how to set up a call via the Lync client in RCC (CTI) mode:

Thanks to this integration, the telephony status and presence of Joseph's contacts are visible: available, on line, in a call, absent, etc.

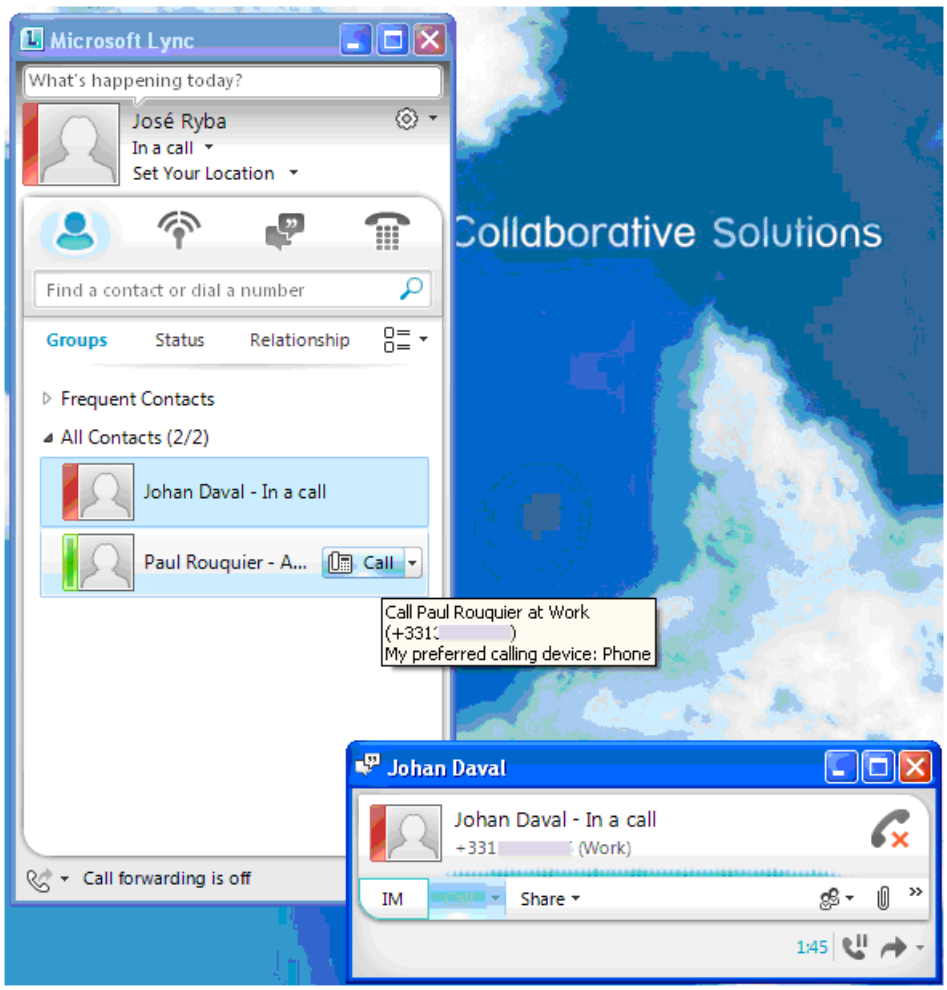
Joseph calls John (who is available) with a simple mouse-click; the call is "in progress":



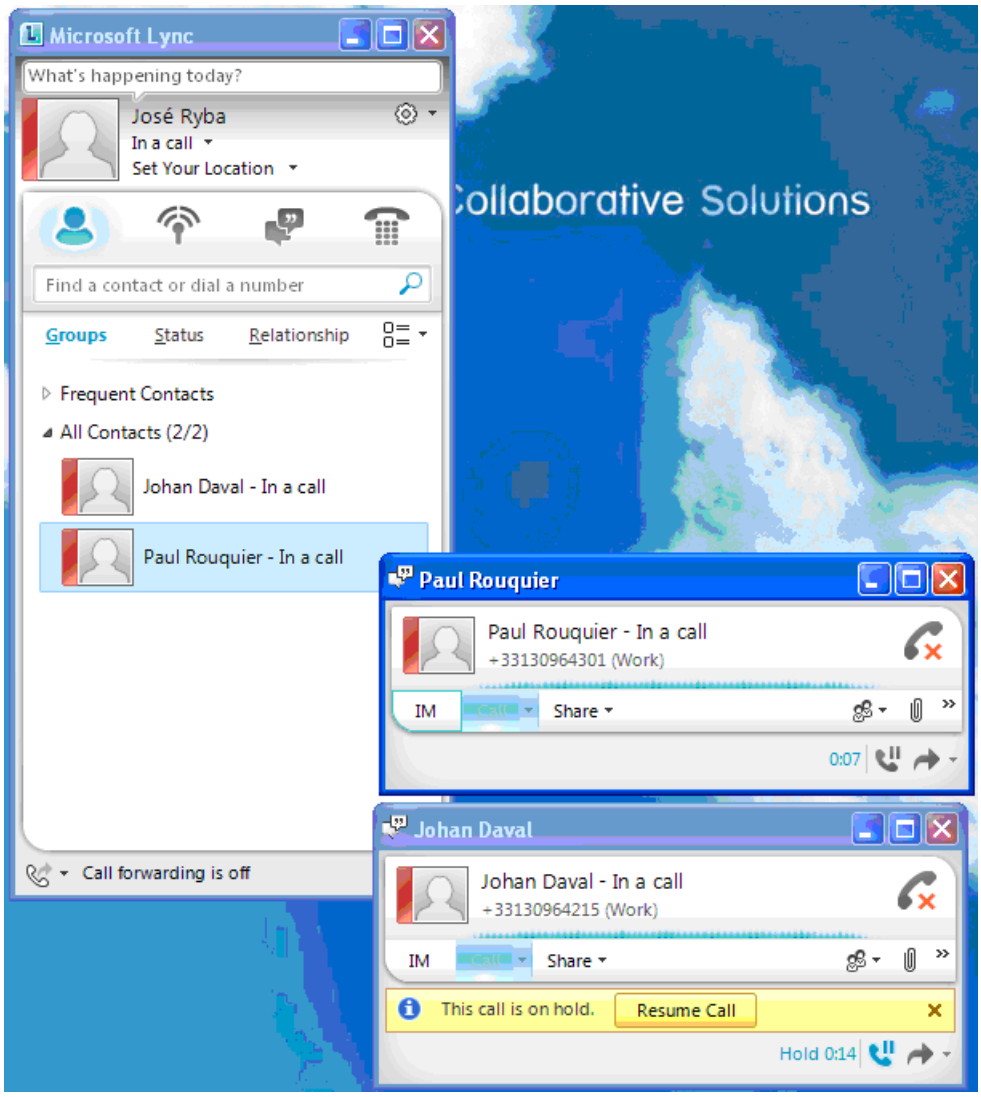
When John accepts the call, his status changes to "in a call":



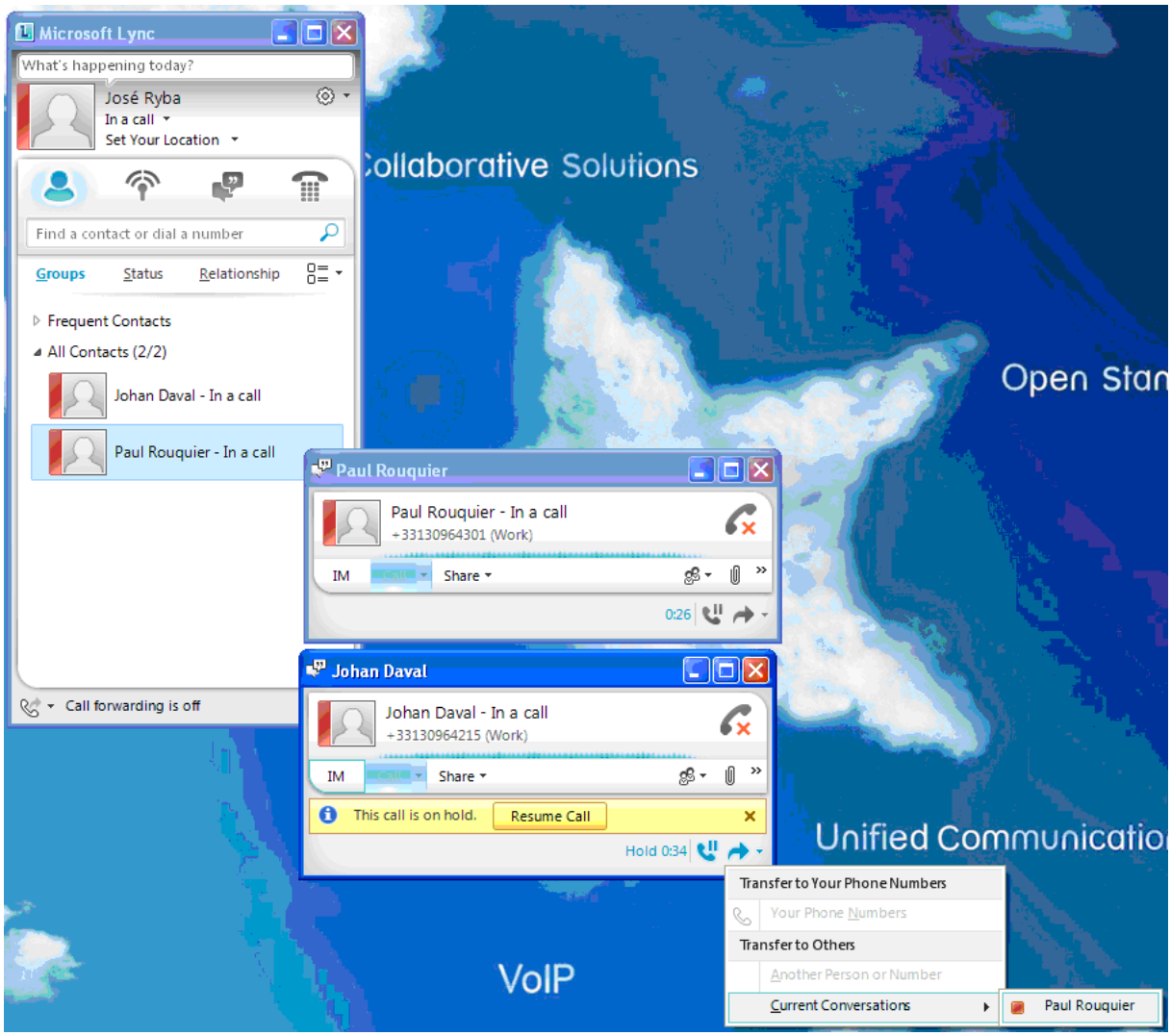
John picks up the phone, Joseph and John are in a call, Joseph calls Paul:



Paul off-hooks and is in a call. John is on hold:

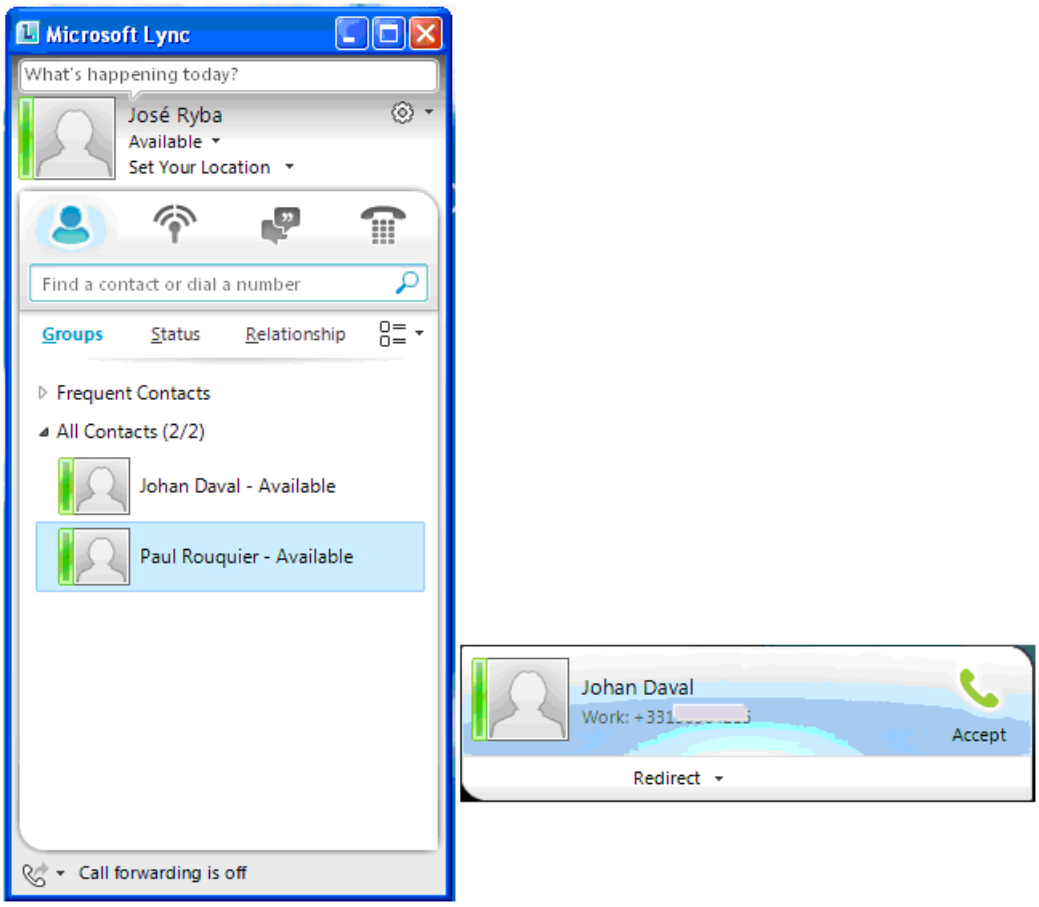


Joseph transfers John to Paul.

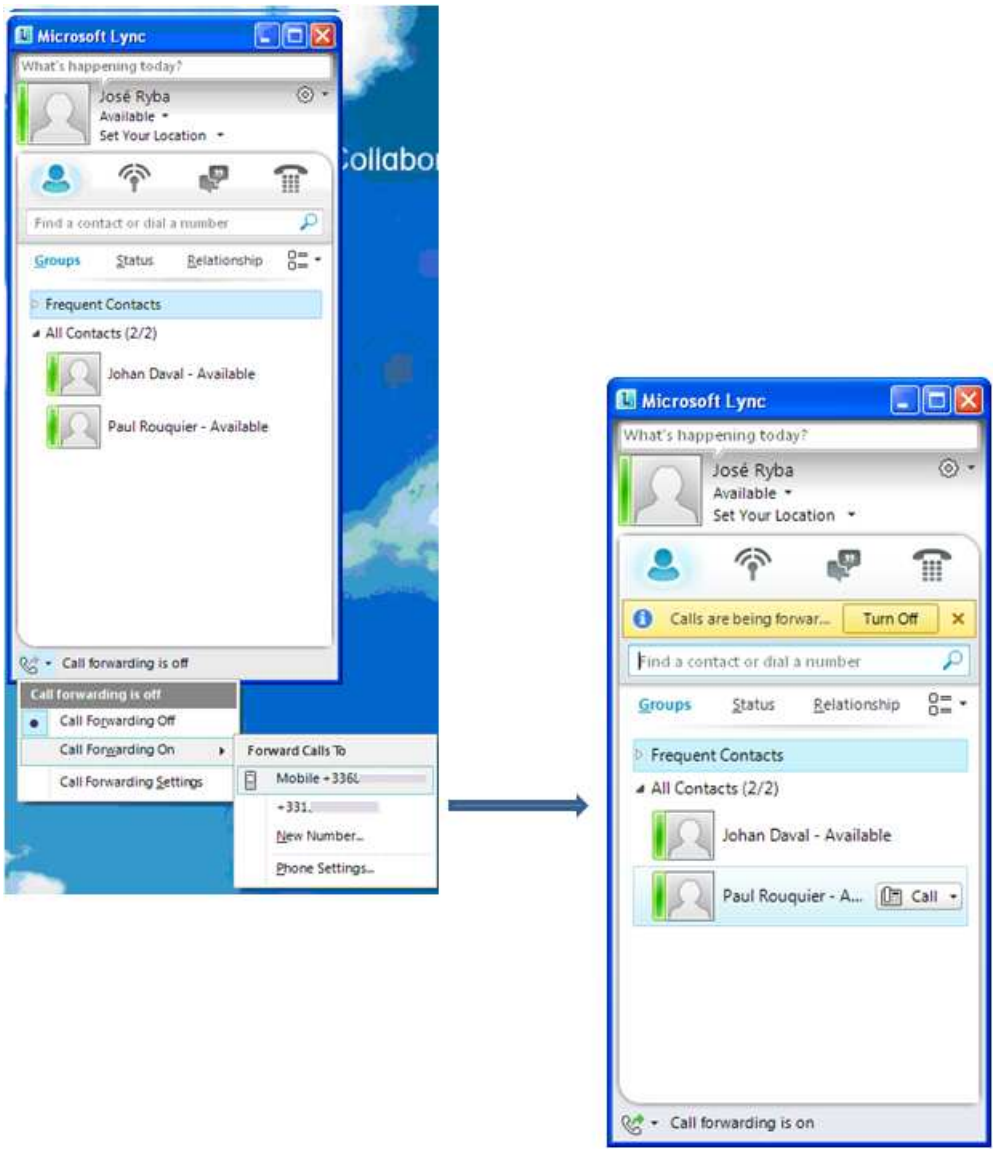


## Example of how to receive a call via the Lync client:

Joseph's client Lync 2010 window can be observed below, with a display of John's call record: Joseph then has the possibility to accept the call.

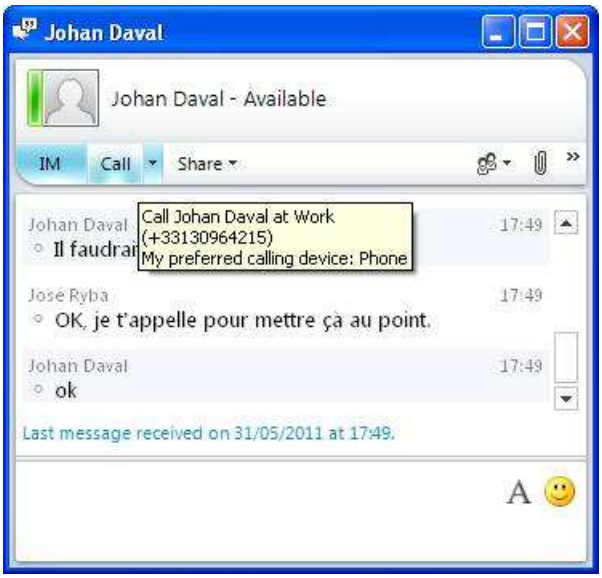


## Example of configuring forwarding from the Lync client:



## Example of how to use instant messaging:

In addition to the telephony services, Lync offers the possibility to communicate through instant messaging. Here, a discussion can be held through instant messaging and then a call can be made by clicking the "Call" button.




During the call it is possible to continue discussing in instant messaging mode, and all the control functions are available in the dialogue box:

During a conversation, the telephone control panel at the bottom of the window is used to:

- Hang up (stop button)
- Put on a call hold (pause button)
- Make a blind call transfer (arrow)
- Make a supervised call transfer (double arrow)
- Initiate a conference by adding a new participant to the ongoing communication (plus button).

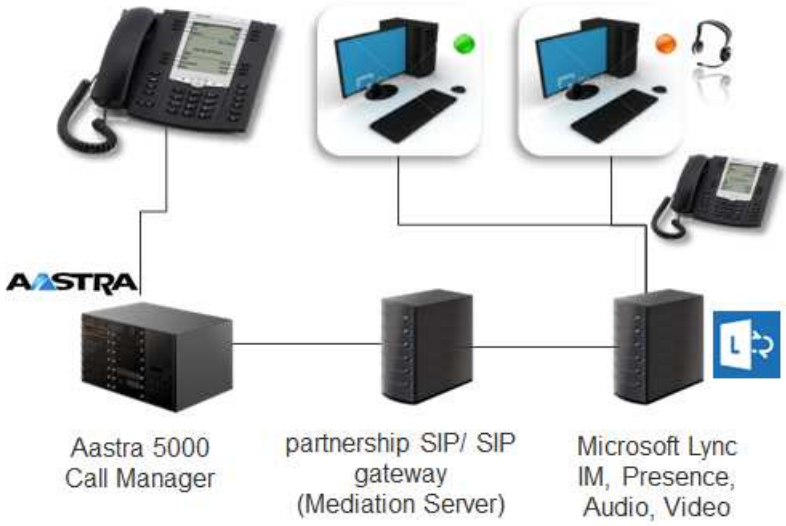
### 65.2.3 Voice interconnection: VoIP mode

Voice interconnection in softphone mode allows Voice over IP calls to be set up between Lync softphones and Aastra 5000 subscribers. This mode offers all voice services to Aastra 5000 such as for example, IP conference.

## The following functions are available in this mode:

- Calls between Aastra 5000 terminals and Lync terminals
- Access to the Lync conference bridge from Aastra 5000 terminals
- External calls for Lync terminals via TDM (T0/T2) accesses or SIP operator accesses on the Aastra 5000 side
- Aastra 5000 services: inter-site links, contact centres, attendant consoles, DECT mobility or fixed/mobile convergence, SIP terminals, videophone terminals.

**Architecture in softphone mode (VoIP)**




Media gateway plays the role of voice gateway by interfacing in UDP SIP on the Aastra 5000 side and communicates in TCP SIP with Lync.

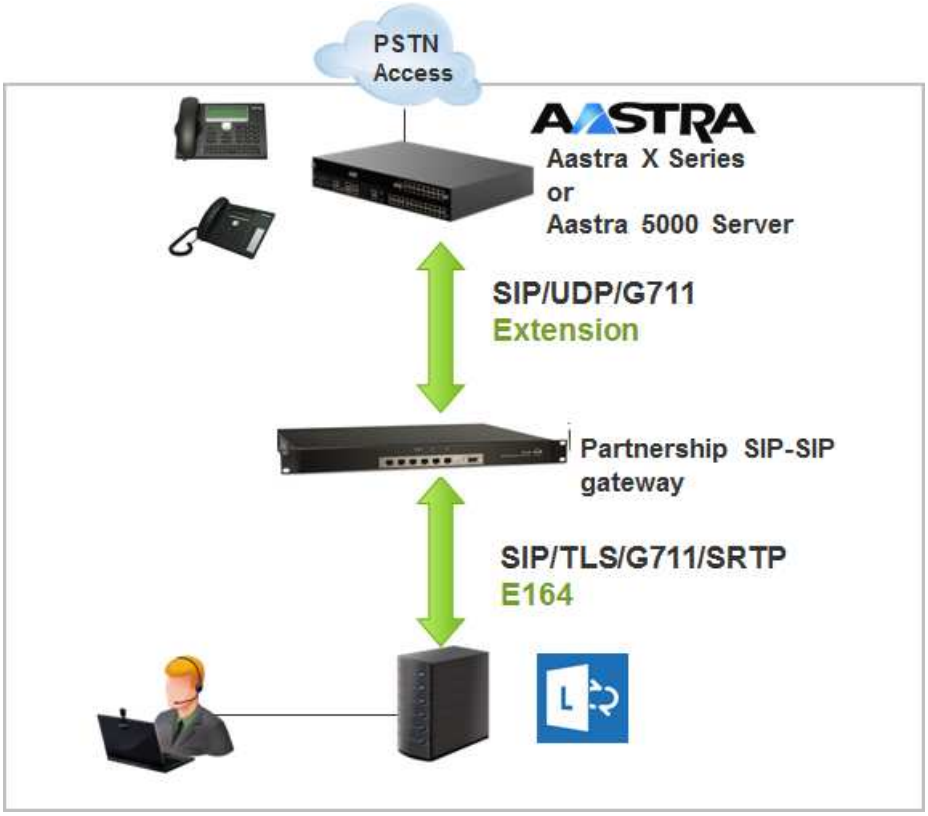
## Details of the elements:

- Softphone or Lync terminals on the Microsoft side and Aastra terminals elsewhere.
- The terminals on the Aastra side are analogue, digital, IP, SIP, DECT, Wi-Fi terminals or smartphones.
- SIP/SIP gateway: partnership gateway. It converts the encoding law and the standard UDP SIP signalling flow to Microsoft specific TCP or TLS SIP.
- Aastra 5000: SIP connection - SIP trunk (UDP protocol, no TLS). 1 SIP trunk dedicated to this service. SIP trunk licences are required (number of channels).

## Protocols used:

- Signalling:
  - Aastra - Media Gateway: SIP UDP
  - Media Gateway - Lync: SIP TCP

- Voice:
  - Aastra - Media Gateway: RTP (G.711)
  - Media Gateway - Lync: RTP




The services offered between Microsoft Lync softphones and Aastra subscribers are:

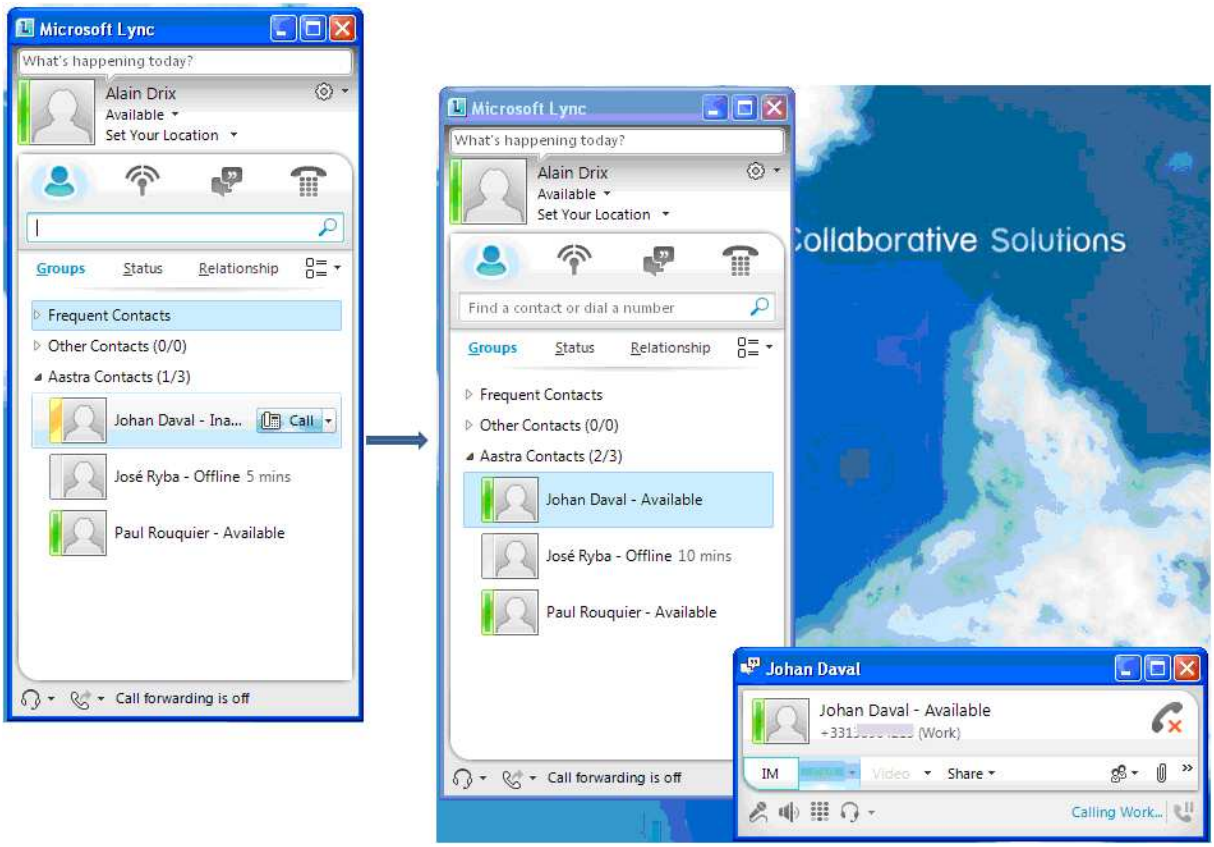
- Simple call (internal calls, external calls via Aastra 5000 gateway)
- Enquiry call
- Alternate (Aastra terminal or Lync)
- Put on hold / resume (Lync or Aastra)
- Forward on ringing (divert)
- Supervised/blind call transfer
- Transfer recovery: the softphone user is engaged in a call and makes a blind transfer. If the third party fails to answer, the softphone user automatically recovers the call.
- 3-party conference: an Aastra terminal initiates the conference and adds a Lync participant.
- N-party conference: initiated by Lync
- Internal / external /immediate forwarding, forwarding on no answer, on busy:
  - From an Aastra terminal to Lync
  - From Lync to Aastra or the exterior
- Do Not Disturb
- Transport of CLID in both directions Aastra - Lync
- Name resolution using an additional service:  Aastra TWP Browser

## Example of how to set up a call via the Lync client in VoIP mode:

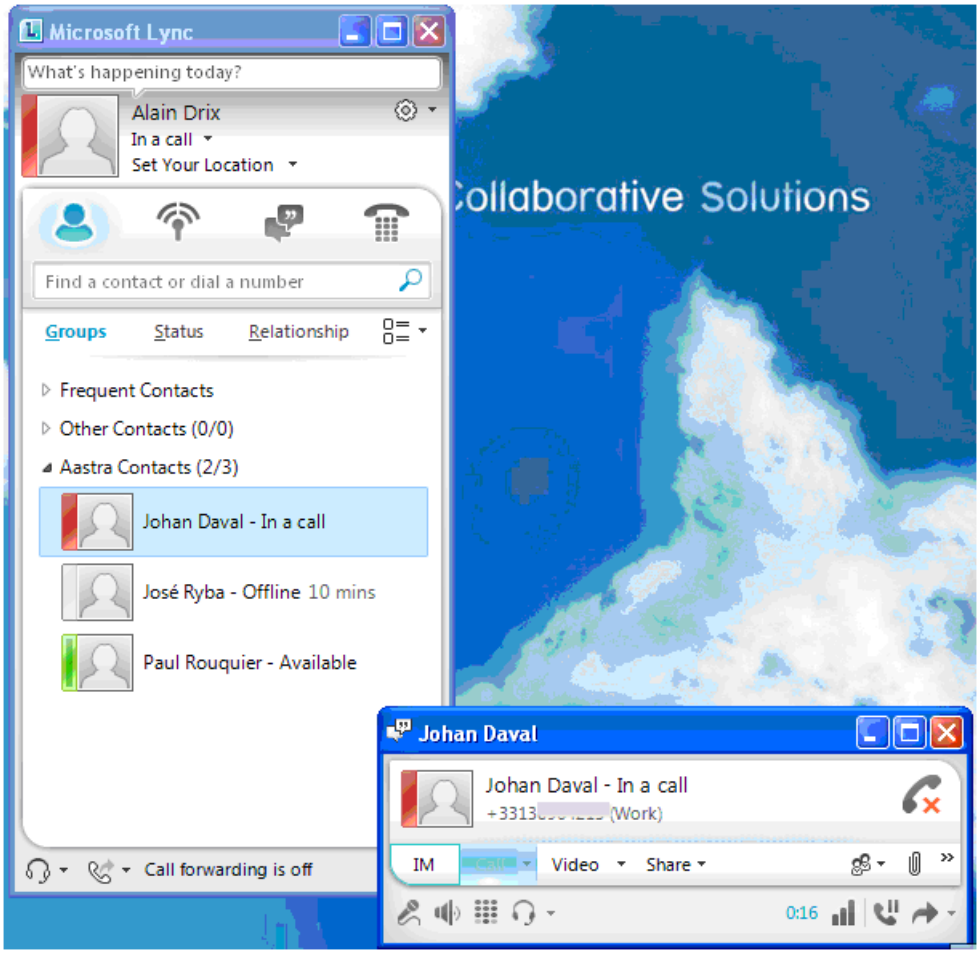
Aastra contacts can be seen, in addition to frequent contacts and other contacts.

The telephony status and presence of Joseph's contacts are visible: available, on line, in a call, absent, etc.

David calls John (who is inactive) from his Aastra phone; the call is "in progress":



John off-hooks, David and John are in a call:



### 65.2.4 Blustar for PC plug-in for Lync 2010/2013

A second possibility to have a softphone application consists in carrying out telephony operations through the Lync client **via an Aastra plug-in: the BluStar for PC plug-in** (available from 2.0 with Lync 2010 and from 2.0 SP4 with Lync 2013).

In other words, with the BluStar for PC plug-in (extension module), integrated into the Microsoft Lync client, call control is performed by BluStar for PC and Aastra 5000 communication server.

This user-friendly solution gives access to a good-quality Enterprise telephony service while guaranteeing an intuitive use.

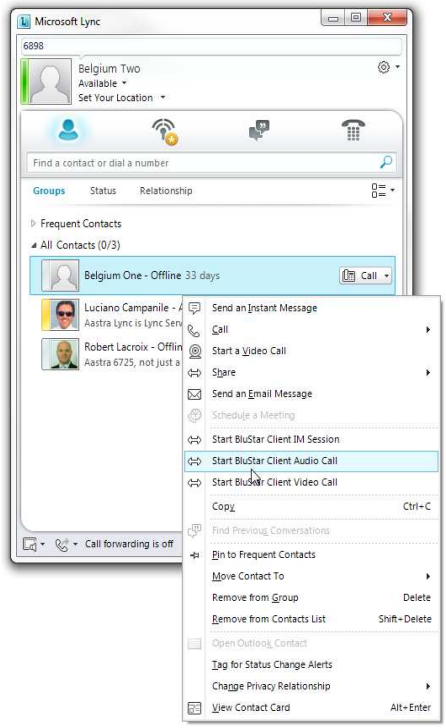
With this integration:

- The user has the Lync client for functions such as presence management, instant messaging, integration into his office suite.
- He makes calls from Lync using the numerous features and openness of the Aastra 5000 solution: he sets up a voice call using the Aastra 5000 resources and/or video call.
- The BluStar for PC client runs simultaneously to access certain advanced functions (example multi-directory search, etc.).

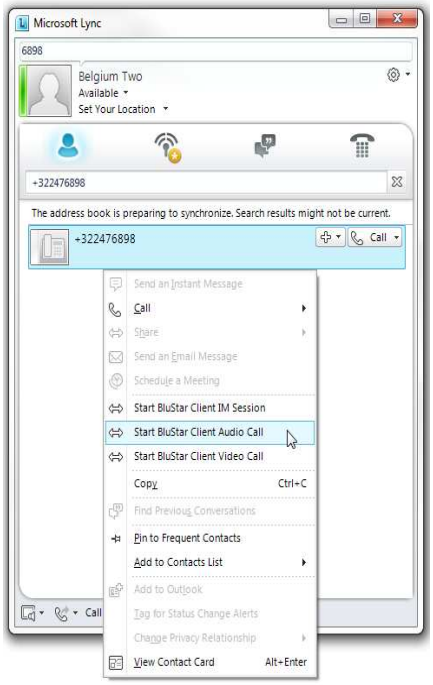
The Microsoft Lync 2010/2013 integration enables the user to initiate calls with BluStar for PC from the Lync application. By right clicking on a contact in the contact list then starting an Audio/Video Call with the BluStar for PC.

It is also possible to directly enter the number to call in the Lync input area.

*Call by right clicking on a contact:*

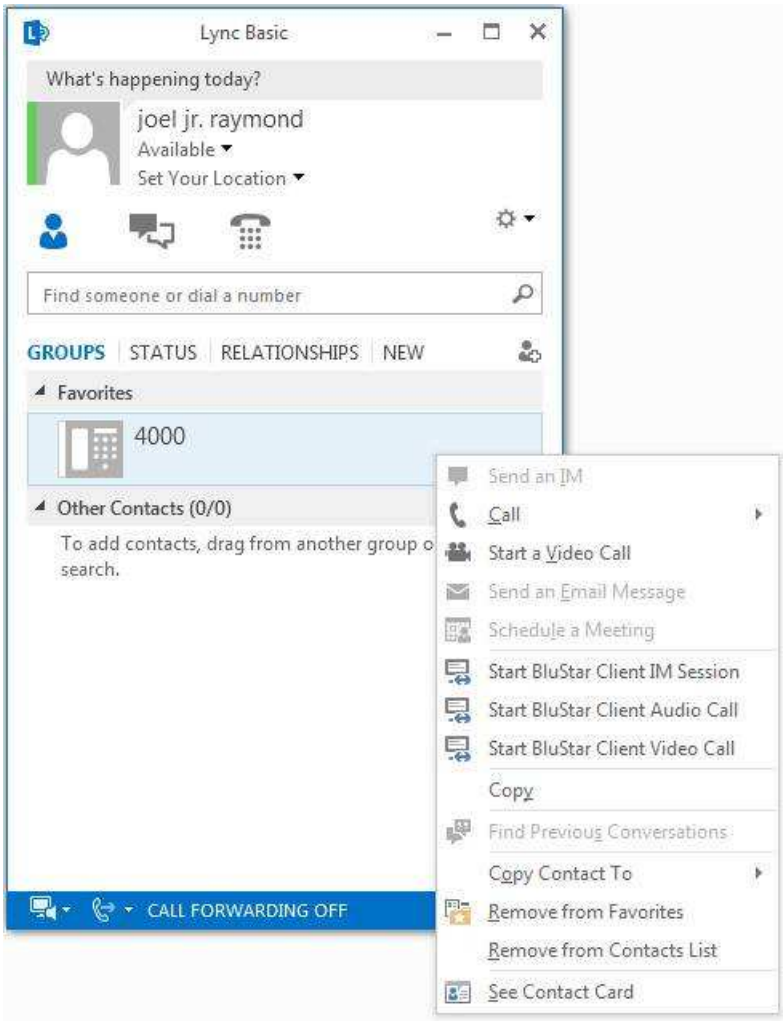



*Call by entering the number then right clicking:*




Presence in Lync will be updated during ongoing calls. When BluStar for PC call is ongoing, Lync is showing busy and when the BluStar for PC call is finished, Lync displays the user status as available.

*Example of Lync 2013 integration:*



### *65.2.5 Unified Messaging – integrating MS Exchange with A5000*

This mode enables Aastra subscribers to have an integration with the Exchange 2010 or 2013 messaging system.

*The following integration modes are offered:*

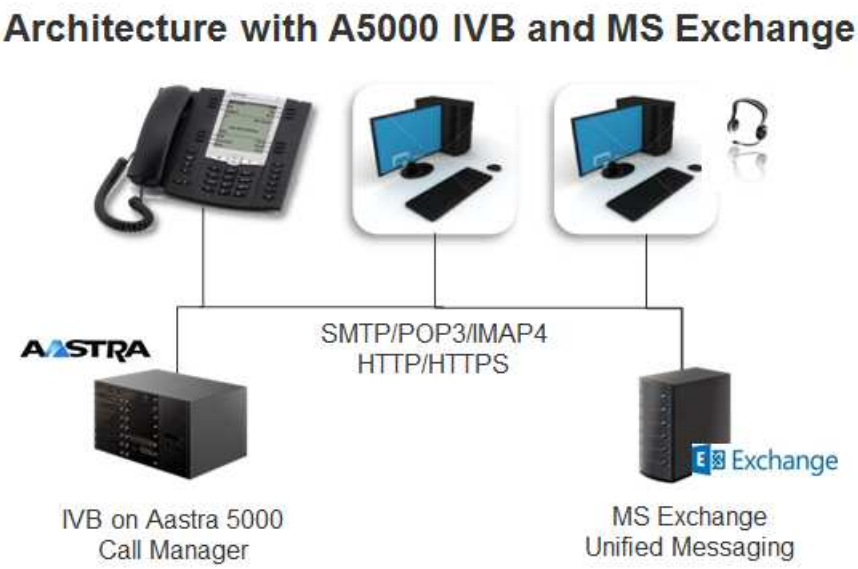
- Integration of unified messaging into Aastra 5000 (IVB) with Exchange 2010/2013, for receiving voice/video message alerts via e-mail and synchronising read/unread statuses
- Integration of unified UCP messaging with Exchange 2010/2013, for receiving voice/video message alerts via e-mail and synchronising read/unread statuses
- Using Exchange messaging as Aastra 5000 voice and unified messaging system

#### 65.2.5.1 Integrated voicemail on Aastra 5000 (IVB)

This mode gives Aastra subscribers access to Aastra 5000 unified messaging system, integrated into the Exchange messaging system.

*This architecture has the following characteristics:*

- It is easy to put in place.
- It offers a unified voice and video messaging service.
- Depending on the level of services, it uses standard protocols like IMAP4, SMTP or POP3.
- It is a solution integrated into A5000 - Synchronisation with MWI.
- It requires neither additional software nor additional module in the Exchange software.




**The items in detail:**

- Aastra: Aastra 5000 unified messaging
- Messaging protocols: SMTP, POP3, IMAP4
- Communication protocols: http or https, depending on the configuration

## Functions:

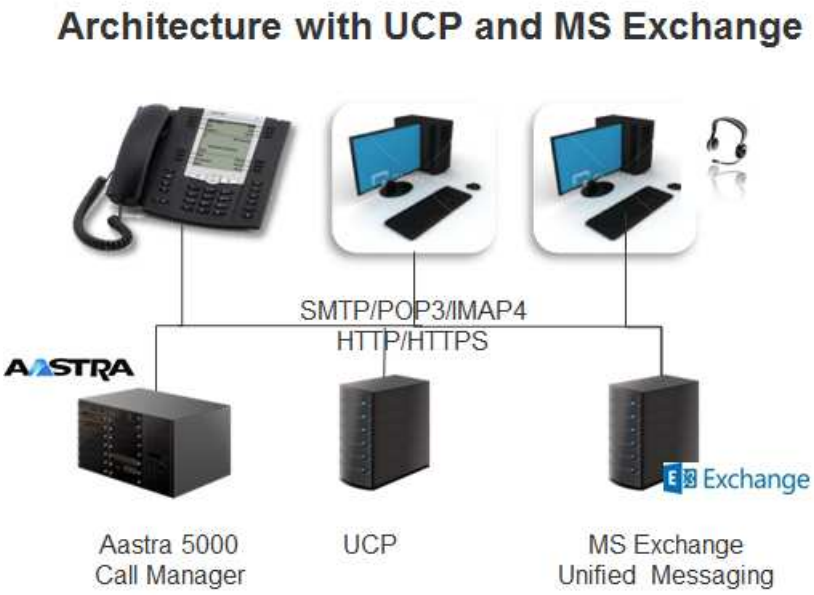
The following services are offered:

- Possibility to leave a voice message (IVB) or video message
- Voice and video alert and/or message (.WAV/.AVI copy) sent to mailbox
- Mail address entered in the LDAP directory
- Playing back the voice message in the e-mail
- It is possible to change to the status "read" and/or "deleted" from the IVB (if the message-read notification has been selected for the e-mail).

### 65.2.5.2 UCP unified voicemail

This method of integrating the UCP unified messaging with Exchange 2010/2013 has the following characteristics:

- Advanced integration with Exchange / integration of Outlook calendar for presence management
- Full interoperability with e-mails
- IMAP4 or SMTP links
- Close integration with the Aastra 5000 platform and terminals
- Flexible configuration:
  - Unified voicemail
  - Management of voice and fax communications




## The items in detail:

- Aastra: UCP unified messaging and Aastra 5000 Call Manager
- Messaging protocols: SMTP, POP3, IMAP4
- Communication protocols: http or https depending on the configuration

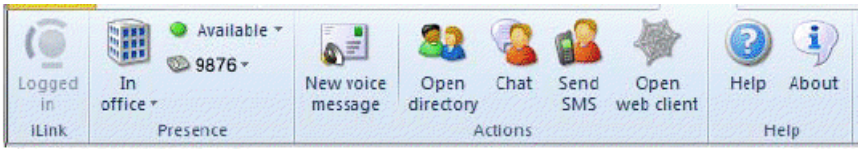
## Functions:

The following services are offered:

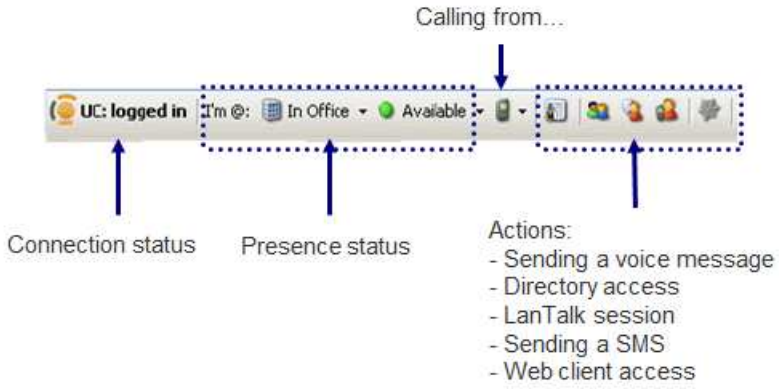
- Possibility to leave a voice or fax message
- Voice and fax alert and/or message (.WAV/.Tif copy) sent to mailbox
- Mail address entered in the UCP directory
- Playing back the voice or fax message in the e-mail
- It is possible to change to the status "read" and/or "deleted" from the UCP (if the message-read notification has been selected for the e-mail).
- Forwarding management, according to Outlook calendar
- Outlook presence plug-in and click and dial from UCP Client

### *UCP tool bar:*

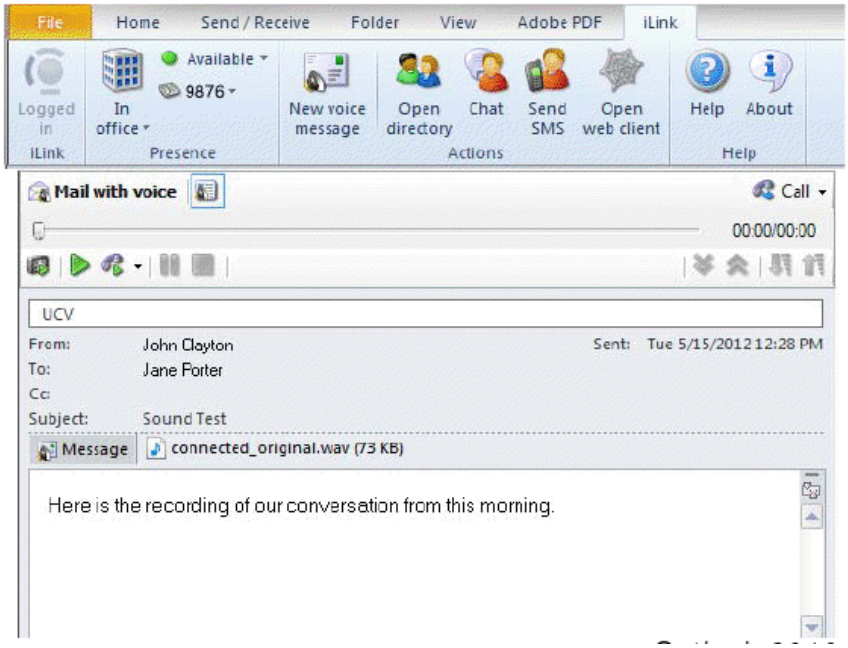
- In Outlook 2010:




- In Outlook 2007:




### *Example of integration into Outlook 2010:*



## Control of voice messages:

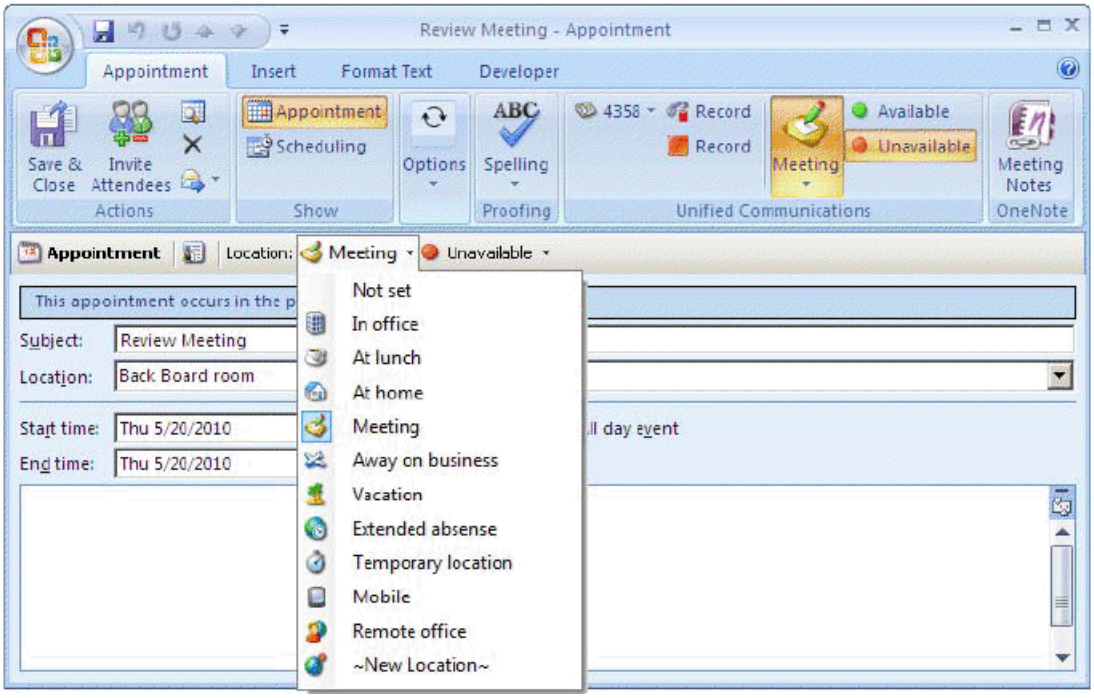
Voice messages attached to an e-mail are automatically detected and can be directly managed in Outlook via the menu below:

## Calendar management:

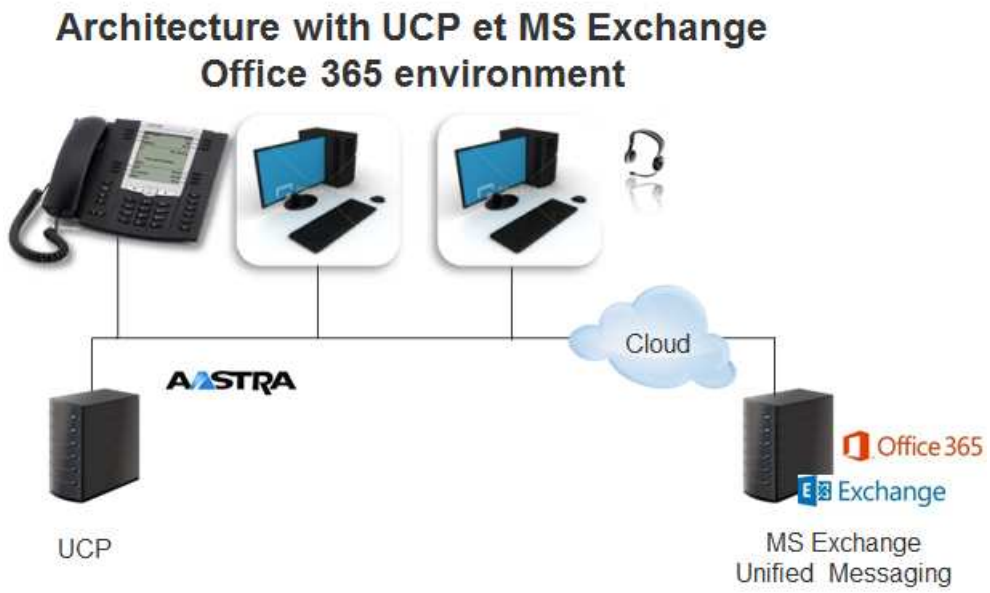
It is possible to manage a UC calendar via the Outlook plug-in.

The Desktop Pro iLink plug-in in Outlook is used to personalise the events associated with the calendar and localisation information.

To apply a UC location to a calendar event, just select a location either from the appointment bar or via the Outlook ribbon. You can also specify the availability parameters if you do not wish to use the default location value.



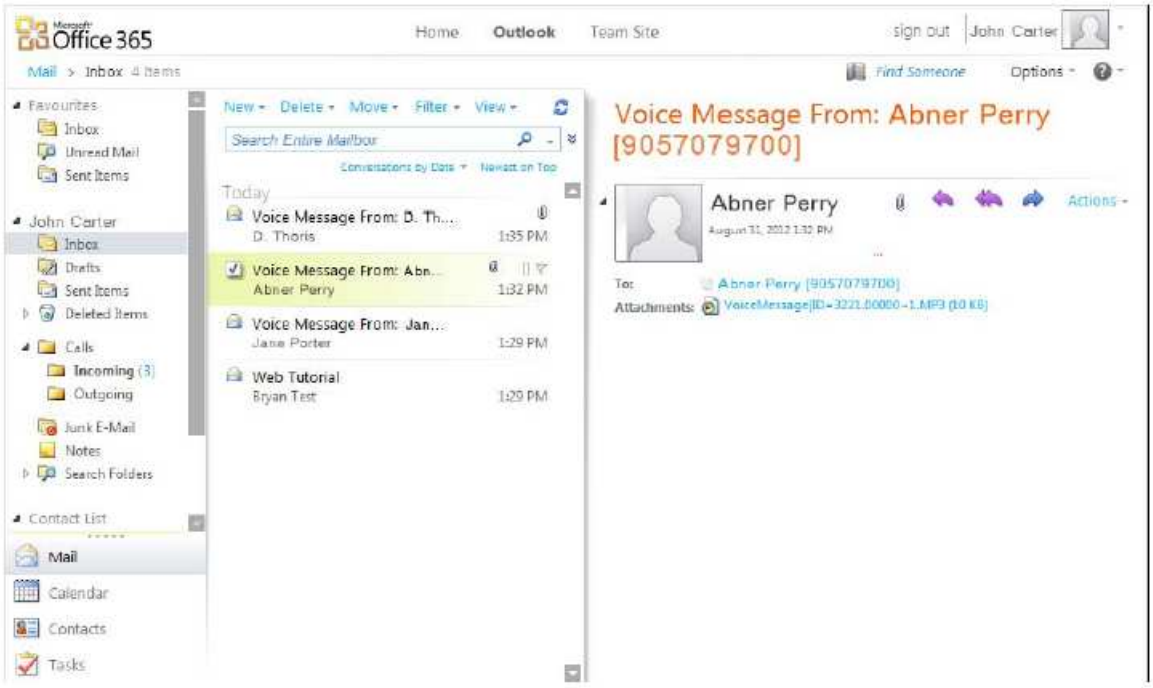
### 65.2.5.3 UCP unified voicemail with Office 365




## The items in detail:

- Aastra: UCP unified messaging and Aastra 5000 Call Manager
- Messaging protocols: SMTP, POP3, IMAP4
- Communication protocols: https

It is possible to leave a voice mail and to access it from the hosted electronic mail system.

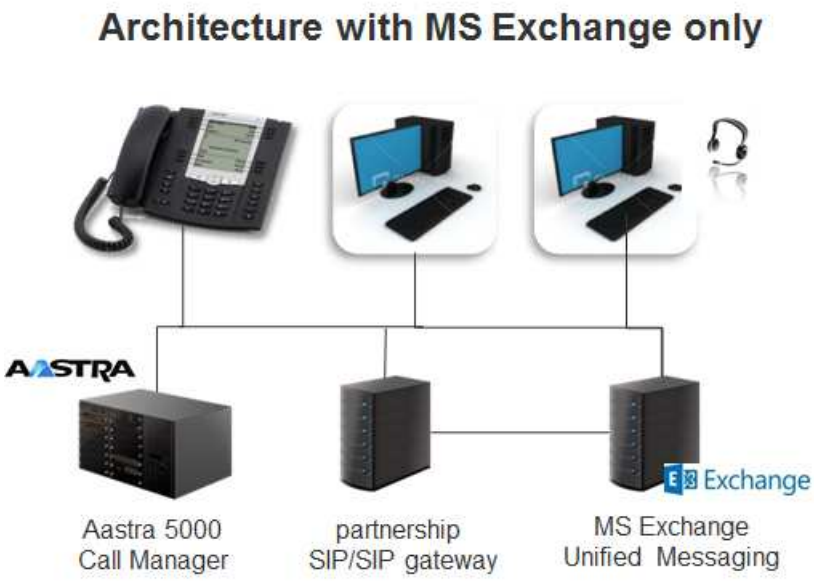



No calendar synchronisation is available in this version of Microsoft.

### 65.2.5.4 Unified Messaging with Exchange - Aastra 5000 SIP interface

This mode enables Aastra subscribers to benefit from the unified messaging system integrated into the Exchange 2010/2013 server.

In the same way as the VoIP mode, a media gateway is used to translate proprietary SIP signalling used by Exchange 2010 to standard SIP used by Aastra 5000.

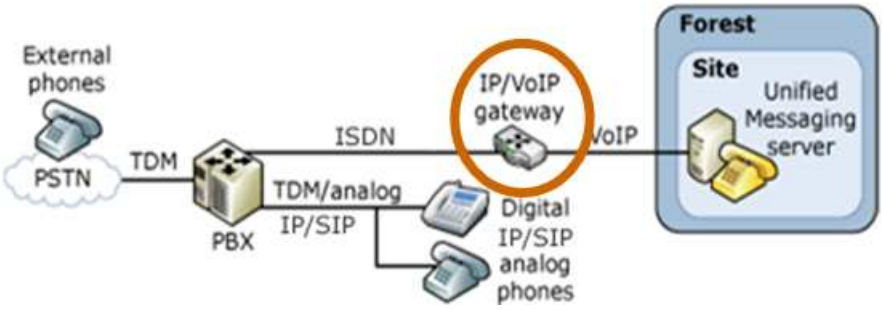



## Details of the elements:

- Voice gateway: partnership SIP/SIP gateway used to translate the proprietary SIP signalling (Exchange 2010) into SIP standard signalling (Aastra 5000)
- Aastra: 1 SIP trunk dedicated to this service. SIP Trunk license with SIP Trunks: it is necessary to define the number of simultaneous calls.

## Protocols used:

- Signalling:
  - Aastra Media Gateway: SIP UDP
  - Media Gateway - Lync: SIP over TCP
- Voice:
  - Aastra - Media Gateway: SIP, G711, G729a or other codecs
  - Media Gateway - Lync: RTP



## Functional level:

The services offered by the Exchange unified messaging system with an Aastra 5000 solution are:

- Possibility to leave a voice message on the voicemail box associated with:
  - An Aastra 5000 subscriber (IP or TDM)
  - Lync 2010/2013 client
- Forward to voicemail: immediate, diverted, on busy, on no answer
- Managing and displaying messages in a personal account, for instance with Outlook Web Access or Outlook
- Accessing the mailbox via Outlook Voice Access, from a phone (messages, contacts and calendars)
- Automatic attendant with AD and Outlook contacts
- Notification via MWI not available in Exchange. It requires an additional, third-party application.

The services validated for Exchange interactive voice response are:

- Navigation via DTMF
- Navigation through voice recognition
- Transfer to an internal Aastra terminal / attendant console (name transfer possible with TWP browser)
- Transfer to a Lync 2010/2013 client terminal (CLID transport not available)

## 65.3 Engineering

### 65.3.1 Prerequisites, compatibilities

The following section concerns the prerequisites on Aastra side. The Aastra solution is validated with the different scenarios seen previously. These different scenarios may, of course, be accumulated to have softphones, CTI and a Microsoft messaging system on the same Aastra installation.

*Aastra – MOCS/Lync compatibilities:*

| | MOCS 2007 R2 | Lync 2010 | Lync 2013 |
|---|---|---|---|
| Aastra 5000 Server | R5.1, R5.2, R5.3 | R5.2, R5.3, R5.4 | R5.2, R5.3, R5.4 |
| Aastra X Series | R5.1, R5.2, R5.3 | R5.2, R5.3, R5.4 | R5.2, R5.3, R5.4 |
| Microsoft Exchange Server | 2007 or 2010 | 2010 | 2010 or 2013 |
| VoIP Gateway | Partnership SIP-SIP gateway | Partnership SIP-SIP gateway | Partnership SIP-SIP gateway |
| RCC Gateway | Aastra TWP Call Control Gateway R2.1 or R3.1 | Aastra TWP Call Control Gateway R3.2 | Be confirmed by Microsoft its commitment to support the RCC interface for this client |
| Blustar for PC plug-in for Lync | N/A | BluStar for PC 2.0 | Blustar for PC 2.0 SP4 |
| Aastra phones | All terminals compatible with Aastra A5000 | All terminals compatible with Aastra A5000 | All terminals compatible with Aastra A5000 |

Note: Aastra does not sell partnership gateways.

### 65.3.2 Main limits of Aastra-Microsoft service

This section describes the main cases in which the Lync solution requires some gateways or the Aastra 5000 solution. This section also describes the solution's limits in terms of interfaces.

*Unavailable features)*

- **Lync 2010/2013 softphone – telephony mode:**
  - No call logs on Lync 2010 client (incoming calls, outgoing calls, missed calls)
  - No call groups
  - No call pick-up
  - No on-hold music for an external or non-Lync 2010 call
  - No Aastra discrimination
  - No Aastra terminal equivalent charging / traffic analysis (transit tickets to be analysed)
  - No Manager/assistant filtering
  - Microsoft forwardings are not synchronized with the Aastra 5000 forwardings.
  - No name resolution: the Lync 2010 clients are seen as external subscribers: Temporary solution with TWP Browser pointing its connector to Active Directory

- **Unified messaging mode :**
  - No Message Waiting Indicator (MWI)
  - No outgoing fax
  - No simple voicemail. E-mail users must have an email

*Other restrictions:*

- No support of the RCC mode or VoIP mode with Office 365.
- Only one directory solution is possible: Microsoft Active Directory or Exchange.
- No DECT mobility offer: Aastra 5000 resources can be used but without call-log-synchronisation services and without associated terminal function.
- No contact centre or advanced attendant console offer
- No SIP trunk operator certification without gateways: connect the operator to Aastra 5000.
- Standard SIP terminal support: use Aastra 5000 to connect vertical application terminals (intercom, videophones, etc.), analogue terminals.
- Use of standard, high-quality codecs on the Aastra 5000 side
- Unlike a thin client, Lync 2010/2013 is a fat client that requires a more complex deployment on user PCs.
- A multi-user environment